

I. Amendments to the Claims

Claims 1-33 (Cancelled)

Claim 34. (New) A method for processing an injection molded thermoplastic preform, comprising the steps of:

injection molding the preform;

receiving the preform in an insert with an external portion of the preform in a cavity defined in the insert, at least a portion of the insert that defines the cavity comprises a porous material; and

deforming the received preform by the action of negative pressure applied through the porous material to draw a preform portion into contact therewith and thereby compensate for a defect in the injection molded preform.

Claim 35. (New) The method according to Claim 34, the step of deforming the received preform compensates for shrink mark defects in the preform.

Claim 36. (New) The method according to Claim 34, the step of deforming the received preform compensates for warpage defects in the preform.

Claim 37. (New) The method according to Claim 34, wherein the method further includes the step of sealing the preform portion in the insert to prevent the intake of ambient air when negative pressure is applied.

Claim 38. (New) The method according to Claim 34, wherein the method further includes the step of cooling the preform in said insert.

Claim 39. (New) The method according to Claim 34, wherein the method further includes the step of applying an input of locally varying pressure conditions along the surface of the insert.

Claim 40. (New) The method according to Claim 34, further comprising the steps of applying overpressure and negative pressure to the preform through a porous element of the insert.

Claim 41. (New) The method according to Claim 34, wherein the step of deforming the preform for varying of a circumferential distribution of material in a wall of the preform causes a remolding of the preform to effect an oval distribution of material in the wall of the preform.

Claim 42. (New) The method according to Claim 34, further comprising a step of blow molding the preform in a single-stage injection-blow process, and wherein the step of deforming the preform is carried out prior to the blow molding step.

Claim 43. (New) The method according to Claim 34, further comprising a step of blow molding the preform in a dual-stage injection-blow process, and wherein the step of deforming the preform is carried out prior to blow molding step.

Claim 44. (New) A device for processing an injection molded thermoplastic preform, comprising:

an insert defining a cavity for receiving an external portion of the injection molded preform; and

at least a portion of the insert that defines the cavity comprising a porous material for deforming the received preform by negative pressure applied through the porous material to draw a preform portion into contact therewith and thereby compensate for a defect in the injection molded preform.

Claim 45. (New) The device according to Claim 44, wherein the cavity defined in the insert is configured to compensate for shrink mark defects in the preform.

Claim 46. (New) The device according to Claim 44, wherein the cavity defined in the insert is configured to compensate for warpage defects in the preform.

Claim 47. (New) The device according to Claim 44, wherein the insert further comprising a negative pressure channel for providing the negative pressure to the porous material.

Claim 48. (New) The device according to Claim 44, wherein the insert includes a seal for sealing the preform portion in the insert cavity.

Claim 49. (New) The device according to Claim 44, wherein the insert further includes a negative pressure channel extending into the cavity.

Claim 50. (New) The device according to one Claim 44, wherein the insert is further configured to cool the preform therein.

Claim 51. (New) The device according to claim 50, wherein the insert is configured to include a cooling channel therein.

Claim 52. (New) The device according to Claim 44, wherein the insert is arranged in a frame.

Claim 53. (New) The device according to claim 52, wherein the frame is configured to include a cooling channel therein..

Claim 54. (New) The device according to Claim 44, wherein the insert is disposed in a cooling sleeve.

Claim 55. (New) The device according to Claim 44, wherein the insert includes a plurality of local porous inserts defining portions of the cavity.

Claim 56. (New) The device according to Claim 55, wherein the local porous inserts are temporarily and controllably connected by means of control valves to (i) a pressure source, and (ii) one or more negative pressure sources, for applying an input of locally varying pressure conditions along the surface of the insert.

Claim 57. (New) The device according to Claim 44, wherein the porous material comprises any one of:

a porous metal;

- a porous metal including aluminum;
- a porous metal including steel;
- a porous metal including a copper alloy; and
- a sintered metal.

Claim 58. (New) The device according to Claim 44, wherein the porous material includes variable pore sizes that are greater than a few μm .

Claim 59. (New) The device according to Claim 44, wherein the insert defines the cavity that is configured to vary a circumferential distribution of material in a wall of the preform to effect an oval distribution of material in the wall of the preform.

Claim 60. (New) A method for processing an injection molded thermoplastic preform, comprising the steps of:

- injection molding the preform;
- receiving the preform on a mandrel with an internal portion of the preform on a surface of the mandrel, wherein at least a portion of the surface of the mandrel comprises a porous material; and
- deforming the received preform by the action of negative pressure applied through the porous material to draw a preform portion into contact therewith and thereby compensate for a defect in the injection molded preform.

Claim 61. (New) The method according to Claim 60, the step of deforming the received preform compensates for shrink mark defects in the preform.

Claim 62. (New) The method according to Claim 60, the step of deforming the received preform compensates for warpage defects in the preform.

Claim 63. (New) The method according to Claim 60, further includes the step of sealing the preform portion on the mandrel to prevent the intake of ambient air when negative pressure is applied.

Claim 64. (New) The method according to Claim 60, wherein the step of deforming the preform for varying of a circumferential distribution of material in a wall of the preform causes a remolding of the preform to effect an oval distribution of material in the wall of the preform.

Claim 65. (New) A device for processing an injection molded thermoplastic preform, comprising:

a mandrel having a surface for receiving an internal portion of the preform; and

at least a portion of the surface of the mandrel comprising a porous material configured to deform the received preform by negative pressure applied through the porous material to draw a preform portion into contact with said surface and thereby compensate for a defect in the injection molded preform.

Claim 66. (New) The device according to Claim 65, wherein the mandrel includes a seal for sealing the preform portion therein to prevent the intake of ambient air when negative pressure is applied.

Claim 67. (New) The device according to Claim 66, wherein the seal is configured for a round end of the mandrel for a partial remolding of the preform.

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Claim 68. (New) The device according to Claim 65, wherein the mandrel comprises at least one membrane that defines a distributor chamber to remold the preform.

Claim 69. (New) The device according to Claim 65, wherein the porous material comprises any one of:

- a porous metal;
- a porous metal including aluminum;
- a porous metal including steel;
- a porous metal including a copper alloy; and
- a sintered metal.

Claim 70. (New) An injection molding machine including the device in accordance with any one of Claims 44 to 59, or 65 to 69.